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THE TRANSLATION OF POWER: A STUDY OF BOUNDARY OBJECTS IN PUBLIC ENGAGEMENT PROCESSES

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Public consultation and engagement processes have become an integral feature of infrastructure development projects in many parts of the world. Regardless of the drivers behind this trend, legislative or otherwise, a key objective of the process is to facilitate information exchange between affected parties. Somewhat simplified, the process is used by the project team to garner support, collect feedback and address grievances for the project, and by a multitude of stakeholders to voice complaints, lobby for change and secure benefits for themselves. It follows that the process, despite intentions otherwise, is commonly characterised by opposing interests and unequal power relationships that lead to antagonistic standoffs between participants. This paper focuses on what takes place within the engagement process and the format through which information is exchanged. In particular, focus is on the material artefacts that are used to facilitate the information exchange. When used effectively, these artefacts act as boundary objects between participants by allowing them to work together across a diverse range of issues. The paper draws on ongoing research that explores how boundary objects are used in the public engagement process in Hong Kong. The study utilises the Latour-Callon model of 'interessement' to trace how information is translated through boundary objects across a series of engagement events. An argument is put forward highlighting how boundary objects both affect and are affected by power struggles between social groups, and how this in turn affects decision making and goal alignment. In so doing, the notion of the boundary objects possessing inherent properties making them effective communication tools across events is rejected, and replaced by a view that puts more emphasis on how and why they are used by the participants.

Keywords: public engagement, power dynamics, materiality, boundary object, communication.

INTRODUCTION

The impact of any construction project extends far beyond the duration of the project itself. Typically, it may cause significant social and lifestyle changes for members of the local community. In the extreme case, it may adversely impact the livelihood of local inhabitants and irrevocably damage the surrounding ecological system. Because of these possible impacts, the concept of public engagement, which allows for the public community to be involved in the decision making process, has become prevalent around the world. In the case of Hong Kong, for example, demand for public engagement has steadily gained momentum over the past decade in response to societal pressures and growing concerns from civil society groups (Lee *et al.* 2013).

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Although there is no legislative requirement for public engagement, it has become a general expectation, such that nowadays all major public projects in Hong Kong undertake some form of public engagement throughout its planning and conceptual design stages (Cheung 2011).

It has been argued that for the public engagement process to be effective it should comprise of a combination of initiatives including public communication, public consultation and public participation (Rowe and Frewer 2005). In Hong Kong, this takes the form of information being communicated to the public through methods such as 'roving' exhibitions, road shows, and surveys; which are then followed up by participatory team processes including focus groups, workshops, and public forums. This is of course heavily context specific and the balance between communication, consultation and participation varies between countries. But the process can nonetheless be understood as being used by the project team to garner support, collect feedback and address grievances for the project; and concomitantly, by community members to voice complaints, lobby for change and negotiate benefits for themselves and those they represent.

It follows, that it is inherent to the process for individuals to have opposing views. Public engagement events are, as such, often filled with tension that leads to antagonistic standoffs between participants. Because of these complications, although establishing effective communication may be the espoused goal by government departments and agencies, such an outcome may not be easily achievable. Furthermore, at times it seemingly might not be desirable. In the example of Hong Kong, the government has in the past been criticised for manipulating the communication flow; if not the information itself then at the very least the message it represents to the public (cf. Cheung 2011). As well as, asking leading questions in their public surveys in order to obtain more favourable responses (*ibid.*). Together these issues highlight the unequal relationship between participants at these events, and illustrate how the struggle for power manifests in the ways information is handled and controlled.

In this paper we take as our point of departure that for urban development projects, the array of artefacts presented at public engagement events provides the most direct way for the public to scrutinise and comment on the design of a government proposal. Therefore, the extent to which they may be effectively used to convey project information to the public is worthy of deliberation and debate. We introduce the concepts of materiality and boundary objects, and go on to argue that certain artefacts presented at public engagement events may be considered as boundary objects. Attention is then turned to how the theoretical model for boundary objects may be extended to analyse situations where unequal power relations exist. Via two short vignettes we illustrate how studying the use of artefacts at public engagement enables the relationships that agents form with each other to be interpreted. Through the struggles and negotiations over the interpretation of a truth or fact, power relationships that are normally implicit are made explicit.

MATERIALITY AND BOUNDARY OBJECTS

In its broadest sense, materiality can be understood as incorporating both tangible objects such as furniture, documents and project management tools, as well as more intangible things such as social settings, job titles and brand names (Carlile 2006). It could even be argued to include the memory of physical objects that no longer exist,

apart from in memories of how it interacted with its surroundings (Walter and Styhre 2013).

Physical objects constitute a ubiquitous part of the construction process, since the end product of construction projects is a physical artefact. Models, drawings, schedules and claims, reports and even the final constructed building itself, plays an active role in the overall goal seeking, goal formulating and decision making processes. It is ironic therefore, especially when considering decision making as a socially negotiated process, that materiality has been relatively neglected (Tryggestad *et al.* 2010). There is, however, a small but growing body of literature that explores the relationship between actors, objects, and communities of practice in construction (cf. Bresnen and Harty 2010). Relevant examples to the research presented here include papers on how designers formulate their understanding of a design scheme through interaction with various design objects (Luck 2010), how artistic sketches, drawings, photos and models actively mediate the transforming ambitions of a building design (Tryggestad *et al.* 2010), and how office hierarchy and managerial controls play out across embedded and material registers (Sage and Dainty 2012).

To understand how interactions between participants and the material artefacts used in public engagement can facilitate communication across knowledge domains, we examine the concept of ‘boundary objects’. First coined by Star and Griesemer in 1989, ‘boundary objects’ describe objects that intersect multiple social worlds. Multiple agents negotiate different interests with each other through interactions with a series of objects. From this perspective, boundary objects allow agents to create meaning along the margins of their overlapping social worlds. Thus, boundary objects facilitate generalisation across domains by being flexible enough to be able to hold different meanings to different people. Hence, they are “*weakly structured in common use, and become strongly structured in individual site use*” (Star and Griesemer 1989: 393).

Since the original article in 1989, boundary objects have gained impetus within the broader organisational management literature. Objects and tools that have been analysed as boundary objects include timelines (Yakura 2002), product design drawings (Carlile 2002), and project management tools (Sapsed and Salter 2004). Four characteristics have been identified that allows an object to function across boundaries: firstly, the development of a syntactic capacity based on a common lexicon that allows transferring of domain-specific knowledge; secondly, a semantic capacity that creates common meanings for identifying novel differences and dependences and translating domain-specific knowledge; thirdly, a pragmatic capacity that allows for a common interest for trade-off and transforming of domain-specific knowledge; and lastly, a system that supports an iterative approach where actors can develop common knowledge over time (Carlile 2004).

It is important to note that merely being an object used in communications between two social worlds does not automatically make it a boundary object. Objects may embody the relevant capabilities to function as boundary objects, but it is the process it supports for actors to collaborate across boundaries that is of importance (Carlile 2006). The property of things are not inherent to artefacts themselves; instead, they emerge from the network of associations within which they are positioned (Lainer-Vos 2013).

FACILITATING INFORMATION EXCHANGE AT PUBLIC ENGAGEMENT EVENTS

A wide range of material artefacts are used in public engagement programs to facilitate information exchange. These include technical reports, drawings and models; promotional leaflets, posters and videos; design digests; powerpoint presentations; and press releases. Likewise, feedback from the public is captured using another set of material artefacts, namely meeting minutes; discussion summaries written by invited panel members; comment sheets and questionnaires; and video recordings.

The above artefacts, or objects, can be grouped into two main categories: the main design preparation; and a supporting system to allow the design information to be consumed by the targeted audience at the event. The first category, design preparation, can in turn be further subdivided into three stages: (i) the design as a collaborative and evolving conceptual object; (ii) the documentation of that object using the conventional techniques of the professionals in charge; and (iii) the production of a design package that allows the design to be distributed to a large audience.

The design concept is an internal boundary object that is not shown to the public. The public nonetheless has an influence on its development. As design ideas are suggested within the project team, their knowledge and perception of existing powerful lobby groups and influential stakeholders will affect the way information is put together and design decisions are made. As the design concept lays the foundation for the subsequent documentation and distribution processes, relatively small changes to the design at this stage may prove to have significant impact on the final object that is presented at an event. There are multiple ways in which raw design may be documented, and the choice is often informed by the target audience and the message the project team wishes to convey. For example, an architectural vision for a new town center may be documented as a series of masterplan drawings, a 3-D physical model, or architectural perspective drawings (or indeed, a combination of all three). Finally, the way information is packaged also has an impact on how it can be used by participants. For example, brochures and design booklets are designed to be easily portable and are ideal for distribution to the masses; whereas the large size format of posters can better accommodate scaled drawings to be read legibly and for multiple parties to gather around to discuss ideas. Separating the design concepts in their raw form, from the way they are documented and packaged, is necessary because the various ways of documenting or packaging the same design concept may be understood differently and illicit different reactions by the viewer. Furthermore, each stage has distinct features that in turn address communication complexities at syntactic, semantic, and pragmatic levels (Carlile 2004).

While crucial for information exchange at the event, the design package comprises only a fraction of the repertoire of objects that participants will interact with. Indeed, an array of objects are used during events to facilitate exchange of ideas and information, as well as for the purposes of maintaining order and control within what can be considered a fair process. This second category – the support system – consists of two stages (iv) the nexus/meeting point, and (v) the reception and feedback mechanism. Together, they provide the venue and physical locality of the event, and the objects needed to follow established procedures. The impact of the support system is as such extremely varied. For a start, the venue has clear implications for who will be able to attend, as well as its duration and content. As a case in point, ‘roving

exhibitions' consisting of panels showing the design proposal are commonly displayed in an area of high pedestrian traffic flow. Community workshops that aim to allow time for in-depth discussion of issues arising from the design proposal are commonly held in local school halls or other public meeting places that are easily accessible by public transport. At a more detailed level, objects such as the ballot box, feedback sheets, AV equipment and portable interpreter headsets all aid in the process of information exchange. For example, the feedback from participants are collected in open floor sessions where feedback forms completed by participants are entered into a ballot box and drawn out at random, and those that are selected by this format will be given a chance to stand up and voice their views.

Table 1 summarises the progression of stages that various material artefacts need to go through to enable public engagement events to function. Stages (i) – (iii) describe the design objects from conception through documentation to package and distribution, and are a commonplace evolution for design development; while stages (iv) and (v) are specific to public engagement processes. As this paper will show, each stage is equally important to the overall process.

Table 1: Chronological hierarchy of objects used to facilitate information exchange

Procedure	Description of boundary object(s)
(i) Design	Conceptual information in raw or digital form; these objects remain in internal circulation and provide a basis for design development and discussion among the design team.
(ii) Documentation	Presentation of the design, in adherence to the conventions of the professions creating the documents, whether they be technical drawings, maps, textual information, physical models, or 3D perspective sketches
(iii) Package and distribution	The documentation is edited and packaged into brochures, powerpoints, videos, and posters for ease of wide distribution. They may also be incorporated, in part or in whole, into media releases and consultant reports.
(iv) Nexus (meeting point)	Physical attributes of the event, including the time and venue; and technical support such as an AV system to showcase the digitised information, and systems for multi-lingual interpretation.
(v) Reception and feedback	A commonly agreed system that allow participants to express their views and exchange ideas in a fair, orderly, and manageable fashion. The materials used to facilitate this include a ballot system to determine who may speak, and feedback sheets collected at the end of the event.

THE TRANSLATION OF POWER

In an ideal setting, the boundary objects should facilitate effective communication and information exchange between parties. They should, in accordance with Star and Griesemer's (1989) model, also allow parties to interact and achieve a common goal. However, since conflicting interests of participants is inherent to public engagement processes, the common goal will be contested and seldom be readily identifiable. As pointed out by Carlile, "*developing an adequate common knowledge is a political process of negotiating and defining common interests*" (Carlile 2004: 559). It follows that for boundary objects to work effectively in the public engagement setting, they will be required to cross not only knowledge boundaries, but boundaries across

unequal power relationships as well. The fact that the system for public engagement is orchestrated by the government, from the type of information shown to the level of feedback it chooses to note down (Cheung 2011), highlights the power they have over the process. Likewise, the power yielded by certain interest groups and their potential ability to bring proceedings to a halt, should not be underestimated. In short, the way events are enacted demonstrates a system of power (Clegg 1989).

Indeed, each of the stages of information exchange detailed in the previous section is not only developed with a temporal insight of significant past and potentially significant future events; they are actively translated from one stage to the next with input from influential parties. The way boundary objects develop through a process of translation highlights the intimate connection power has over the control of information. This idea of translation of power is advocated by Latour, who argues that the exercise of power should be treated as an effect rather than as a cause. He points out the paradoxical notion that *“when you simply have power – in potentia – nothing happens and you are powerless; when you exert power – in actu – others are performing the action and not you”* (Latour 1986: 264-5). To study power as an effect, Latour proposes following actors around to trace the associations established as various actors conduct tasks to achieve their goals, and through these associations, arrive at a network of actors that, due to their interactions, form a society or a community. In short, such an approach endeavours to understand the social world by tracing the associations that creates such a world (Latour 1987, 2005). Callon (1986) applies this perspective to identify a series of translations where agents form associations and alliances with each other. During this process, certain entities control others, and form the foundations of power relationships. Alliances are formed in a series of ‘interessement’ events. Roughly translating to ‘inter-positioned’ in French, ‘interessement’ describes a group of actions by which one group of entities use their influence to impose or dictate the actions of other entities in order to conform to the way a situation has been framed in their minds (Callon 1986).

The distinguishing characteristic of ‘interessement’ events are ‘obligatory passage points’, which are crucial points that bring entities together to form a system of alliances or associations (see also Law 1986). Clegg (1989) interprets an obligatory passage point as an avenue for each of the three categories in his power circuits framework (‘episodic’, ‘dispositional’ and ‘facilitative’), to interact with each other. It is at these obligatory passage points where entities have the chance to become empowered or disempowered (Clegg 1989). A public engagement event may be seen as an ‘episode’ where a ‘dispositional’ system of power network is made explicit through the mobilisation of a ritualised procedure. During these episodes opportunities exists where, through the process of working with objects, an actor can use an object as leverage to become empowered or conversely, have certain objects used against them and become disempowered.

The idea of ‘interessement’ is something that, although prominent in Star and Griesemer’s original work on boundary objects, has disappeared into the background in later adaptations in the broader management literature. Focus has instead been on the property of the objects and how a physical ‘organisational object’ crosses knowledge boundaries (Lainer-Vos 2013). The alternative approach, and the one that we advocate here, is to instead focus on the process of translation through ‘interessement’ events. This approach focuses on how actors form alliances with each other to guide or alter the trajectory of an object’s development. Doing so allows us to take power relationships between the actors into consideration.

The progression of ‘interessement’ in the public engagement process begins at the inception of the design concept and continues throughout its evolution and development to influence how the information may be digested by the target audience. At every stage of design development, consideration of how it will be perceived by the public will be taken into account, effectively ‘interesting’ the design process. Although the control of information flow resides exclusively with the project team up until the nexus/meeting point, the influences of powerful stakeholders are forever present in the background. These implicit relationships are exposed and made explicit during the event when parties finally meet. Each group of participants who attend this event has an agenda based on their own self-interest, which involves a distinctive set of goals and obstacles. The successful attainment of a group’s goal may be hindered by either conflict with project goals or conflict with the goals of another group. These goals are, in part, progressed through ‘interessement’ events that involve actors interacting with boundary objects. Furthermore, decisions are made through an iterative process in which recurrent actions are taken up and carried through by adaptive actors (Macy 1997). The challenge for boundary objects in this instance is, as previously noted, the need for them to be able to satisfy the needs of divergent sets of goals as determined by individual participants.

DISCUSSION

To illustrate how boundary objects may be conceptualised, how their meaning is influenced and shaped based on the circumstance of their use, and how their usage constitute ‘interessement’ events that highlight power *in actu*, we draw on two small vignettes extracted from an ongoing multi-case study research.

VIGNETTE: COMMUNITY WORKSHOP

At the audience feedback session conducted towards the end of a community workshop, some participants expressed considerable criticism towards the way in which the planning scheme was presented during meetings – the schemes were presented as standard zoning plans, accompanied by architectural site cross sections and some artists’ renditions. The criticism was that:

“We cannot understand the blobs and the squiggles of this so-called zoning plan; it doesn’t show the height or the real impact, so why don’t you come back with a 3D perspective and then we can have an honest discussion.”

The frustration voiced by this participant highlights the difficulty of communicating technical drawings and design information through any representational medium to laypersons. It also implicitly demonstrates the power that is associated with the control of information. Whether intentional or not, the method of representation directly influences an actor’s ability to use the object. A similar argument can be found in the results of a focus group study conducted by Woodcock *et al.* (2012), which gauged the reaction of local residents to different types of architectural representations. The study found that, if buildings are represented as solid blocks with little architectural details, the laypersons will likely misinterpret the height and bulk of the proposed development. Yet, if they are shown an architectural 3D rendering, they are likely to conclude that they are being misled by developers, that the built reality will not reflect the version shown to them in the focus group, and that the drawings are used to seduce and manipulate them into agreeing to a scheme they may later regret.

What our vignette and the findings of Woodcock *et al.* (2012) have in common is that they both illustrate instances where actors fail to use the objects to convey technical project-specific information. The barrier to knowledge exchange at the documentation level has effectively obstructed communication at the design concept level.

VIGNETTE: PUBLIC FORUM

During the Q&A section of a public forum, speakers voiced their concern that the completed development will not match the images shown in the video, and that the numbers published in the socio-economic study were incorrect. When these technical details could not be agreed upon, hostility began to be directed towards the format of the forum, personal attacks were made on the mental capacity of the facilitator, and the legitimacy of the ballot box was questioned. At this event the AV technicians controlled the use of the microphone and were able to switch it off after the allocated time, if the member of audience refused to stop speaking. This 'privilege' was used increasingly frequently as the event progressed and speakers in the audience began to ignore the 3 minute rule. This display of *power in actu* demonstrates how one technician's relatively minor supporting role may have a major impact on the flow of information. Following the incident with the microphone, some of the other boundary-objects-in-use began to lose the ability to sustain a set of 'common lexicon' (Carlile 2004) deemed necessary for knowledge transfer. For example, a few participants declared that the ballot was unfair because the ballot box was somehow rigged, despite the fact that the box was made of clear plastic and completely transparent.

In the above description, the focus is shifted from the design information to items that symbolise the event: the format (which was predetermined by the project team); the facilitator; and the ballot box. Hence, the boundary objects include both artefacts (eg. the ballot box) and systems of organisation (eg. the microphone system) that allowed information to be conveyed at different levels. These systems for communication are especially important since the information is not the only artefact that the participants will interact with at the event. In such a regimented environment, numerous forms of materiality play a role in the task of communicating between parties, effectively qualifying them as boundary objects. Each of the boundary objects used in the above 'episode' of power struggle were manipulated by the user to empower themselves while simultaneously disempowering their opposition.

CONCLUDING REMARKS

By systematically categorising the types of boundary objects used during public engagement processes and by drawing attention to the interaction between agents and artefacts, we have sought to define and conceptualise how systems of objects and material artefacts contribute to the formulation of information exchange in public engagement processes. We have illustrated that merely being a material artefact that is used for communication between two social worlds does not automatically make the artefact a boundary object. The willingness of the participants to interact with the artefacts, and the identities they give to them, has a decisive role in determining how effectively the artefact will be able to cross knowledge boundaries. When agreement cannot be reached on the meaning of a boundary object, they cease to be effective communication tools, and might be turned into a 'bludgeoning tool' instead (Carlile 2002: 452). This is not dependent on any inherent characteristics of the artefact, which may be controlled, but rather on the interactions between artefacts and agents, which cannot be controlled and is built upon a dynamic relationship between artefacts, its creators, and its targeted audience. Thus, we argue that to study boundary objects

necessarily involves studying the creation and transformation of the object over time and identifying ‘interessement’ events throughout this evolution. The influence that participant groups have on a project will in turn influence the formulation of these artefacts. It follows that there is a need to trace how decisions are made in the public engagement process, by studying the active involvement of boundary objects.

We have argued that the dynamics of information exchange and goal formation changes and is adapted depending on the circumstances surrounding its discussion, and that material artefacts play an active role as boundary objects in facilitating the dialogue between parties. Although we have progressed the argument that power struggles between parties may hinder the process of information exchange, it is important to remember that power struggles should not be seen as an antithesis to the goal of information exchange. Instead, we view the process of information exchange as a socially negotiated process that is heavily dependent on the quality of interaction between participants, and argue that power dynamics is one such contributing factor that may play a role in manipulating or influencing the outcome of decisions.

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